

DOCKET NO.: UPN-4238/P3130

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Application of:

Carl T. Brighton, et al.

Confirmation No.: 4332

Application No.: 10/603,226

Group Art Unit: 3762

Filing Date: June 25, 2003

Examiner: Not Yet Assigned

For: **PORTABLE ELECTROTHERAPY DEVICE FOR TREATING
OSTEOARTHRITIS AND OTHER DISEASES, DEFECTS AND INJURIES OF
THE KNEE JOINT**

DATE OF DEPOSIT:

June 7, 2004

I HEREBY CERTIFY THAT THIS PAPER IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID, ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO THE UNITED STATES PATENT AND TRADEMARK OFFICE, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

Elizabeth A. McLoud

TYPED NAME: Elizabeth A. McLoud

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR § 1.56 and in accordance with 37 CFR §§ 1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 CFR § 1.56(b).

- ☒ In accordance with § 1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified

application, within three months of the date of entry into the national stage of the above identified application as set forth in § 1.491, before the mailing date of a first Office Action on the merits of the above-identified application, or before the mailing date of a first Office Action after the filing of request for continued examination under § 1.114, no additional fee is required.

- ☐ In accordance with § 1.129(a), this Information Disclosure Statement is being filed in connection with ☐ the first or ☐ second After Final Submission, therefore:
- ☐ Certification in Accordance with § 1.97(e) is attached; or
- ☐ The fee of \$180.00 as set forth in § 1.17(p) is attached.
- ☐ In accordance with § 1.97(c), this Information Disclosure Statement is being filed after the period set forth in § 1.97(b) above but before the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311, or before an action that otherwise closes prosecution in the application, therefore:
- ☐ Certification in Accordance with § 1.97(e) is attached;
- or
- ☐ The fee of \$180.00 as set forth in § 1.17(p) is attached.
- ☐ In accordance with § 1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311 but before, or simultaneously with, the payment of the Issue Fee, therefore included are: Certification in Accordance with § 1.97(e); and the submission fee of \$180.00 as set forth in § 1.17(p).
- ☐ Copies of each of the references listed on the attached Form PTO-1449 are enclosed herewith.

- ☒ Copies of references listed on the attached Form PTO-1449 are enclosed herewith
- ☐ Copies of references listed on the attached Form PTO 1449 are not required to be submitted pursuant to the June 30, 2003 recent revisions to 37 CFR § 1.98(a)(2)(i).


EXCEPT THAT:

- ☐ In view of the voluminous nature of references [list as appropriate], and the likelihood that these references are available to the Examiner, copies are not enclosed herewith.
- ☒ In accordance with § 1.98(d), copies of the following references listed on the attached Form PTO-1449 are not enclosed herewith because they were previously cited by or submitted to the U.S. Patent and Trademark Office in patent application(s) for which a claim for priority under 35 U.S.C. § 120 have been made in the instant application:
- ☒ Copies of references 1-27 and 31-33 listed on the attached Form PTO-1449 were previously cited by or submitted to the Patent and Trademark Office in prior Application No. **10/257,126**, filed **October 8, 2002**.

Please charge any deficiency or credit any overpayment to Deposit Account No. 23-3050. This form is submitted in duplicate.

- ☐ The relevance of those listed references which are not in the English language is as follows:
- ☒ There are no listed references which are not in the English language.

Date: *June 7, 2004*


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Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. UPN-4238/P3130	Application No. 10/603,226
		Applicant Carl T. Brighton, et al.	
		Filing Date June 25, 2003	Group 3762
		Confirmation No. 4332	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	1	Aaron, R.K., et al., "The conservative treatment of osteonecrosis of the femoral head," <i>Clin. Orthop.</i> , 1989 , 249, 209-218	
	2	Aaron, R.K., et al., "Stimulation of experimental endochondral ossification by low-energy pulsing electromagnetic fields," <i>J. Bone Miner. Res.</i> , November 2, 1989 , 4, 227-233	
	3	Bassett, C.A.L., "Low energy pulsing electromagnetic fields modify biomedical processes," <i>BioEssays</i> , 1987 , 6(1), 36-42	
	4	Bassett, C.A.L., et al., "Effects of pulsed electromagnetic fields on Steinberg ratings of femoral head osteonecrosis," <i>Clin. Orthop.</i> , September 1989 , 246, 172-185	
	5	Bassett, C.A.L., et al., "Fundamental and practical aspects of therapeutic uses of pulsed electromagnetic fields (PEMSs)," <i>Crit. Rev. Biomed. Eng.</i> , 1989 , 17(5), 451-529	
	6	Bassett, C.A.L., et al., "Pulsing electromagnetic field treatment in ununited fractures and failed arthrodeses," <i>JAMA</i> , February 5, 1982 , 247(5), 623-628	
	7	Binder, A., et al., "Pulsed electromagnetic field therapy of persistent rotator cuff tendonitis," <i>Lancet</i> , March 31, 1984 , 695-698	
	8	Brighton, C.T., et al., "A multicenter study of the treatment of non-union with constant direct current," <i>J. Bone and Joint Surgery</i> , January 1981 , 62-A(1), 2-13	
	9	Brighton, C.T., et al., "Treatment of recalcitrant non-union with a capacitively coupled electrical field," <i>J. Bone and Joint Surgery</i> , April 1985 , 67-A(4), 577-585	
	10	Brighton, C.T., et al., "Treatment of castration-induced osteoporosis by a capacitively coupled electrical signal in rat vertebrae," <i>J. Bone and Joint Surgery</i> , February 1989 , 71-A(2), 228-236	
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
	11	Brighton, C.T., et al., "Increased cAMP production after short-term capacitively coupled stimulation in bovine growth plate chondrocytes," <i>J. Orthop. Res.</i> , 1988 , <i>6</i> , 552-558
	12	Brighton, C.T., et al., "Treatment of denervation/disuse osteoporosis in the rat with a capacitively coupled electrical signal: effects on bone formation and bone resorption," <i>J. Orthop. Res.</i> , 1988 , <i>6</i> , 676-684
	13	Goodman, R., et al., "Exposure of salivary gland cells to low-frequency electromagnetic fields alters polypeptide synthesis," <i>Proc. Natl. Acad. Sci. USA</i> , June 1988 , <i>85</i> , 3928-3932
	14	Goodwin, C.B., et al., "A double-blind study of capacitively coupled electrical stimulation as an adjunct to lumbar spinal fusions," <i>Spine</i> , 1999 , <i>24(13)</i> , 1349-1356
	15	Grodzinsky, A.J., "Electromechanical and physicochemical properties of connective tissue," <i>Crit. Rev. Biomed. Engng.</i> , 1983 , <i>9(2)</i> , 133-198
	16	Harrison, M.H.M., et al., "Use of pulsed electromagnetic fields in perthes disease: report of a pilot study," <i>J. Pediatr. Orthop.</i> , 1984 , <i>4</i> , 579-584
	17	Jones, D.B., et al., "PEMF effects on differentiation and division in mirine melanoma cells are mediated indirectly through cAMP," <i>Trans. BRAGS</i> 6 , 1986 , 51
	18	Lorch, D.G., et al., "Biochemical pathway mediating the response of bone cells to capacitive coupling," <i>Clin. Orthop. and Related Res.</i> , 1998 , <i>350</i> , 246-256
	19	Massardo, L., et al., "Osteoarthritis of the knee joint: an eight year prospective study," <i>Ann Rheum Dis.</i> , 1989 , <i>48</i> , 893-897
	20	Mooney, V., "A randomized double-blind prospective study of the efficacy of pulsed electromagnetic fields for inter body lumbar fusions," <i>Spine</i> , 1990 , <i>15(7)</i> , 708-712
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21	Norton, L.A., et al., "Pulsed electromagnetic fields alter phenotypic expression in chondroblasts in tissue culture," <i>J. Orthop. Res.</i> , 1988 , 6, 685-689	
22	Rodan, G.A., et al., "DNA synthesis in cartilage cells is stimulated by oscillating electric fields," <i>Science</i> , February 10, 1978 , 199, 690-692	
23	Ryaby, J.T., et al., "Pulsing electromagnetic fields affect the phosphorylation and expression of oncogene proteins," <i>Trans. BRAGS</i> 6, 1986 , page 78	
24	Ryaby, J.T., et al., "The effect of electromagnetic fields on protein phosphorylation and synthesis in murine melanoma cells," <i>BRAGS</i> , page 32	
25	Wang, W., et al., "The increased level of PDGF-A contributes to the increased proliferation induced by mechanical stimulation in osteoblastic cells," <i>Biochem. And Molecular Biol. International</i> , October 1997 , 43(2), 339-346	
26	Zhuang, H., et al., "Mechanical strain-induced proliferation of osteoblastic cells parallels increased TGF- β 1 mRNA," <i>Biochem. Biophys. Res. Commun.</i> , 1996 , 229, 449-453	
27	Zhuang, H., et al., "Electrical stimulation induces the level of TGF- β 1 mRNA in osteoblastic cells by a mechanism involving calcium/calmodulin pathway," <i>Biochem. Biophys. Res. Commun.</i> , 1997 , 237, 225-229	
28	Brighton, C.T., et al., "Fracture healing in the rabbit fibula when subjected to various capacitively coupled electrical fields," <i>J. Orthop. Res.</i> , 1985 , 3, 331-340	
29	Brighton, C.T., et al., "In vitro bone-cell response to a capacitively coupled electrical field," <i>Clin. Orthop. Related Res.</i> , December 1992 , 285, 255-262	
30	Carter, E.L., et al., "Field distributions in vertebral bodies of the rat during electrical stimulation: a parametric study," <i>IEEE Trans. on Biomed. Eng.</i> , March 1989 , 36(3), 333-345	
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Filing Date
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3762

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Examiner Initial		Document No.	Date	Name	Class	Subclass
	31	5,269,746	12/14/93	Jacobson	600	13
	32	6,083,149	07/04/00	Wascher, et al.	600	9
	33	US 6,186,940 B1	02/13/01	Kirschbaum	600	12
	34	4,509,520	04/09/85	Dugot	128	419
	35	4,600,010	07/15/86	Dugot	128	419
	36	5,014,699	05/14/91	Pollack, et al.	128	419
	37	5,038,797	08/13/91	Batters	128	798
	38	5,273,033	12/28/93	Hoffman	607	46
	39	5,338,286	08/16/94	Abbott, et al.	600	14
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Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO
	44	WO 01/62336 A1	08/30/01	PCT		
EXAMINER				DATE CONSIDERED		